

AMENDMENTS TO THE CLAIMS

The following listing of claims replaces all prior versions, and listings, of claims in the captioned patent application:

Listing of Claims:

1-53. (Cancelled)

54. (New) A cochlear implant comprising:

a stimulator unit configured to generate electrical stimulation signals;

an electrode assembly comprising a lead extending from the stimulator unit, and a contiguous elongate member implantable in a recipient's cochlea;

one or more electrodes disposed on or in the elongate member each configured to deliver the electrical stimulation signals to the cochlea; and

an annular collar slidably mounted around the lead such the lead extends through a lumen in the collar, the collar having a chamber therein configured to receive a bioactive substance and an outlet through which the bioactive substance can pass from the chamber to a target site in the recipient.

55. (New) The cochlear implant of claim 54, further comprising:

a stop member, disposed on the electrode assembly, configured to prevent the collar from sliding beyond the stop member toward a distal end of the elongate member.

56. (New) The cochlear implant of claim 54, wherein a portion of the lead is configured to be implanted in a middle ear of the recipient, and wherein the collar is dimensioned to slide along a portion of the lead implanted in the middle ear.

57. (New) The cochlear implant of claim 54, wherein the collar has a plurality of different diameters along the length of the collar.

58. (New) The cochlear implant of claim 54, wherein the chamber is configured to retain the bioactive substance therein for a period of time.

59. (New) The cochlear implant of claim 54, further comprising:

a semi-permeable membrane disposed in the outlet and configured to leach the bioactive substance from the chamber to the target site.

60. (New) The cochlear implant of claim 54, wherein the chamber is annular and surrounds the lumen of the collar.

61. (New) The cochlear implant of claim 60, wherein the outlet is annular.

62. (New) The cochlear implant of claim 54, wherein the collar further comprises:

an inlet in fluid communication with the chamber.

63. (New) The cochlear implant of claim 62, wherein the inlet is disposed in a proximal end of the collar, and the outlet is disposed in a distal end of the collar.

64. (New) The cochlear implant of claim 62, wherein the chamber is configured to pass the bioactive substance from the inlet to the outlet.

65. (New) The cochlear implant of claim 64, wherein the chamber is a pipe extending through the collar from the inlet to the outlet.

66. (New) The cochlear implant of claim 62, further comprising:

a reservoir in fluid communication with the inlet and configured to retain the bioactive substance.

67. (New) The cochlear implant of claim 66, wherein the reservoir is positionable external to the recipient.

68. (New) The cochlear implant of claim 66, wherein the reservoir is positionable within the recipient.

69. (New) The cochlear implant of claim 66, further comprising:

a catheter extending from the reservoir to the inlet; and

a pump configured to transfer the bioactive substance from the reservoir into the chamber via the catheter.

70. (New) An implantable tissue stimulating device comprising:

an electrode assembly comprising a lead and an elongate member having its proximal end contiguous with a distal end of the lead, and having a one or more electrodes disposed on or in the elongate member; and

an annular bioactive substance delivery collar slidably mounted around the lead such the lead extends through a lumen in the collar, the collar having a chamber therein configured to receive a bioactive substance and an outlet through which the bioactive substance can pass from the chamber to a target site in the recipient.

71. (New) The device of claim 70, further comprising:

a stop member, disposed on the electrode assembly, configured to prevent the collar from sliding beyond the stop member toward a distal end of the elongate member.

72. (New) The device of claim 70, wherein a portion of the lead is configured to be implanted in a middle ear of the recipient, and wherein the collar is dimensioned to slide along a portion of the lead implanted in the middle ear.

73. (New) The device of claim 70, wherein the collar has a plurality of different diameters along the length of the collar.

74. (New) The cochlear implant of claim 70, wherein the chamber is configured to retain the bioactive substance therein for a period of time.

75. (New) The cochlear implant of claim 70, wherein the chamber is annular and surrounds the lumen of the collar.

76. (New) The cochlear implant of claim 75, wherein the outlet is annular.

77. (New) The device of claim 70, further comprising:

a semi-permeable membrane disposed in the outlet and configured to leach the bioactive substance from the chamber to the target site.

78. (New) The device of claim 70, wherein the collar further comprises:

an inlet in fluid communication with the chamber.

79. (New) The cochlear implant of claim 78, wherein the chamber is configured to pass the bioactive substance from the inlet to the outlet.

80. (New) The cochlear implant of claim 78, wherein the inlet is disposed in a proximal end of the collar, and the outlet is disposed in a distal end of the collar.

81. (New) The cochlear implant of claim 78, wherein the chamber is a pipe extending through the collar from the inlet to the outlet.

82. (New) The cochlear implant of claim 78, further comprising:

a reservoir in fluid communication with the inlet and configured to retain the bioactive substance.